

Appendix D

CRITERIA USED FOR THE CHAPTER 3 SUMMARY CHARTS

RESOURCE RATINGS USED IN THE RESOURCE INFORMATION SUMMARY CHARTS

Nine resource reports were prepared for developing the Northwest Area Plan alternatives and management proposals in 1987. The reports are referenced in Appendix C. The reports evaluated the distribution, quantity, and quality of each of the nine major resources in the planning area. Areas were given ratings for the resources they contained. These ratings are outlined by subunit in the Resource Information Summary charts in Chapter 3. A list of the major criteria for ratings for each resource follows.

Cultural Resources. Areas with known or probable cultural values are portrayed on maps developed with information taken from the Alaska Heritage Resource Survey (1:250,000 series U.S.G.S. topographic maps) and by State Office of History and Archaeology staff from the Division of Parks and Outdoor Recreation. Areas with "high probability of sites, but none known," were delineated based on resource availability, topography, site locations in similar but known areas, and field experience. The cultural resource report also lists, by quadrangle, areas with high cultural value not shown on the cultural resource maps because mapping was restricted to state-owned or state-selected lands. For further explanation, see Cultural Resource Report, referenced in Appendix C.

Mapped cultural resource areas were categorized as follows:

1. National Register sites.
2. Areas with known sites or a combination of known sites and high probability for sites.
3. High probability of sites, but none known.

Fish and Wildlife Resources. The Habitat Division of ADF&G determined the suitability of land as wildlife habitat and assigned values (A-1, A-2, B-1, B-2, and C in descending order) based upon estimates of habitat quality and human use. The species distribution and life history of key species (e.g. moose, anadromous fish, caribou, bear) were first mapped using important life functions (e.g. spawning, winter concentrations, calving areas). These factors were then aggregated, putting the highest values on biological criticality and species diversity. Subsistence use information derived from the Habitat Management Guides and from the Subsistence Division's Northwest Mapping Project were added to habitat values to raise rankings of areas that receive a high level of use. For further explanation, see Fish and Wildlife Resource Report, referenced in Appendix C. Habitat categories are defined as follows:

Suitability

Category	Definition
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A-1	A discrete habitat area needed to sustain a species within a region
A-2	Special value habitat and/or harvest area
B-1	High value habitat and/or harvest area
B-2	Moderate value habitat and/or harvest area
C	Low value habitat and/or harvest area

Forestry Resources. Two sources of information were used to map the forest resources in the region. For the Seward Peninsula, the timber typing is based on 1:125,000-scale ecological site maps produced by the U.S. Department of Agriculture, Soil Conservation Service. For the Kobuk River area, the D.G.G.S. produced

1:63,360-scale vegetation maps from interpretation of aerial photographs for state-owned and state-selected lands. The maps have not been field checked.

Forested areas have stands of spruce (black or white) or hardwood or both. Areas without these types of forest are rated "low to none." Communities that use driftwood were determined by a telephone survey for the NWAP in February 1986. For further explanation, see Forestry Resource Report, referenced in Appendix C.

Land Conveyances. In order to identify settlement potential for state-owned and state-selected land in the Northwest Plan area, three groups of factors were evaluated:

Capability potential, the physical ability of land to support settlement use, was evaluated using six characteristics--permafrost distribution, frost heave potential, drainage and/or permeability, bearing strength, slope stability and material source potential.

Suitability potential, the immediate potential to be used for settlement based on social or economic constraints or opportunities, was derived by modifying capability ratings based on access and vegetation (forest cover) factors.

Feasibility areas, those areas with suitability potential that are most likely to be used for settlement, were determined on the basis of demand, access type and quality, historical or existing settlement patterns, and land ownership patterns. Some areas were identified as feasible for settlement based solely on supply and demand considerations.

Based on geological constraints and environmental hazards, some units of terrain were dropped from settlement considerations because they were clearly incapable of supporting settlement. Using the aforementioned factors, remaining lands were ranked for settlement potential. Based on this procedure, settlement suitability was rated as high, moderate, low, or unsuitable (or incapable) at 1:500,000 scale for each area of state land. For further explanation, see Land Conveyance Resource Report, referenced in Appendix C.

Minerals. Based on analysis of existing data, including geology, claim locations, magnetic-field strength, and known mineral occurrences, a

mineral potential score was established for each township within three of four NWAP subregions. Time did not permit assessment of mineral potential in the lower Norton Sound Subregion where mineral potential is thought to be minimal. Each township assessed was assigned one of the following mineral potential ratings:

Very low - Geologic environment generally unfavorable; little bedrock exposed, low potential for placers or sandstone-hosted metals; no known mineral occurrences; unfavorable geochemistry or geophysics; off trend with more favorable areas; no mining-claim activity; unfavorable metallogenic and tectonic terrane.

Low - Some aspects of geologic environment may be favorable, but generally not favorable; few, if any, known deposits; little or no mining-claim activity; geochemical and geophysical structures generally negative; little bedrock exposed; generally unfavorable metallogenic and tectonic terrane.

Moderate - Geologic environment favorable; significant deposits not known; low mining-claim activity; geochemical and geophysical signatures may be favorable; cell may be distantly on trend with cells of higher favorability.

High - Geologic environment very favorable; on trend or in same unit that hosts significant mineral occurrences; significant deposits not currently known; some mining-claim activity; geochemical and geophysical signatures favorable; favorable metallogenic and tectonic terrane.

Very high - Geologic environment very favorable; significant mineral deposits known; numerous active mining claims; geophysical and geochemical signatures favorable; very favorable metallogenic and tectonic terrane.

To take into account the diversity in quality of available data on which assessments were prepared, a data quality score for each township was prepared with the following values:

Very poor - Only geologic mapping at 1:1,000,000 scale or similar generalized maps; low density or no regional geophysical data base; general lack of information.

Poor - Lower quality 1:250,000 scale geologic mapping units pertinent to mineral deposits not shown; regional low-density geophysical

coverage; low-density geochemical coverage; few, if any, local studies.

Fair - Good, careful 1:250,000 or 1:125,000 scale geologic mapping with units pertinent to mineral deposits shown; regional low-density geophysical coverage; low-density geochemical data base; some local studies.

Good - Detailed (1:63,360 scale or larger) geologic mapping; ordinary geochemical coverage; aeromagnetic coverage at 1/2- to 1-mile spacing; some local prospect studies.

Very good - Detailed (1:63,360 scale or larger) geologic mapping; numerous units mapped; alteration zones and gossans shown; comprehensive geochemical data base at 1/4-mile spacing; other geophysical data available; detailed studies of mines or prospects; good surficial geology.

Areas in which there is possibility for coal discovery and areas of known coal occurrences were identified and mapped based on criteria such as known coal deposits, occurrences of sedimentary rock known to host coal, geologic structures favorable to coal occurrences, and proximity to known coal deposits. Areas were categorized as follows:

1. Very low to low possibility for discovery.
2. Low to medium possibility for discovery.
3. Medium to high possibility for discovery.
4. Known coal areas of lesser occurrences (marginal because of lower BTU, low tonnage, thin beds or structural complexity).
5. Known coal areas--medium to large that contain measured reserves of resalable coal (mining may be possible under proper conditions).

For further explanation, see Minerals Resource Report, referenced in Appendix C.

Oil and Gas. Within the NWAP, the Selawik Basin, Colville Basin, Brooks Range Foothills, and Brooks Range Province are known to have some oil and gas potential. Within these areas,

oil and gas potential has been rated as moderate, low, or unknown, based on evaluation of limited available data. A reservoir and source study currently being completed by DGGs will allow for a better evaluation of oil and gas potential in the area. For further explanation see Oil and Gas Resource Report, referenced in Appendix C.

Recreation. The assessment of nonconsumptive recreation opportunities for the area was drawn from the Joint Federal-State Planning Commission's Resource Inventory, Northwest Region. This inventory assesses opportunities within fairly specific management subunits. It utilizes a rating system based on the Bureau of Land Management's Recreation Information System modified to assist in inventorying this large area. Areas were mapped that had existing recreation activities or that showed potential for future recreation. For further explanation, see Recreation Resource Report, referenced in Appendix C.

Reindeer Grazing. Winter range for reindeer is based on a range survey conducted by the U.S. Department of Agriculture, Soil Conservation Survey (SCS), completed in 1983. The information was based on 14 consolidated vegetative types that constitute winter range or that may be potential winter range. Lands with generalized winter range that covers 50 percent or more of the area are rated "winter range" in the resource summary ratings. Reindeer fawning areas are also noted when they exist, as indicated by preliminary range management information from the SCS. For further explanation, see Reindeer Grazing Resource Report, referenced in Appendix C.

Subsistence. Subsistence use is documented by studies of the Alaska Department of Fish and Game Subsistence Division, in the Habitat Management Guides. Maps were prepared by community, as noted in the resource summary charts, for each species harvested. For further explanation, see Subsistence Resource Report, referenced in Appendix C.

CRITERIA USED FOR THE LAND-USE DESIGNATION SUMMARY CHARTS

Specific land-use designations are applied for primary surface use when lands have one or more of the following characteristics:

- High surface values
- Intensive subsurface activity or high potential for future intensive development
- Intensive public use
- Needs for special management to protect resources or avoid resource conflicts
- Near-term development likely.

In Northwest Alaska, designations with these characteristics include Habitat and harvest uplands, Habitat and harvest tidelands, Minerals, Minerals/Habitat and harvest lands, Coal/Habitat and harvest lands, Recreation/Habitat and harvest lands, and Settlement.

"General use" designations are used for lands with the following characteristics:

- Moderate or low resource values
- Near-term development unlikely
- Dispersed public use
- Few resource conflicts.

These designations equate to classifications as shown in the conversion chart, Table 4-1 on Page 4-2.

A **primary use** is defined as a designated, allowed use of major importance in a particular management unit. Resources in the unit will be managed to encourage, develop, or protect this use. Where a management unit has two or more designated primary uses, the management intent statement and guidelines for the unit, together with existing regulations and procedures, will direct how resources are managed to avoid or minimize conflict between these primary uses.

A **secondary use** is defined as a designated, allowed use considered important, but intended to receive less emphasis than a primary use because it has less potential than a primary use or contributes less to achieving the management intent of the unit than a primary use, or occurs only on limited sites. In those site-specific situations where a secondary use has a higher value than a primary use, the secondary use may take precedence over the primary use. Management for a secondary use will recognize and protect primary uses through application of guidelines, regulations, and procedures. However, if a secondary use cannot occur without detrimentally affecting a primary use in the management unit as a whole, the secondary use will not be allowed.

The chart on the following page summarizes the criteria used to apply these designation rules to state lands in the Northwest Area, based on the resource ratings in the aforementioned discussion.

DESIGNATION RULES

Resource	When is it primary?	When is it secondary?
Fish & Wildlife Habitat & Harvest	A-1, A-2, B-1 on retained lands	B-2, C; or higher values on lands offered for land sales
Forestry	None	Where trees exist and continued use is expected
Minerals or Coal	Intensive subsurface activity; high potential for future intensive development, or near-term development likely	None
Oil and Gas	No surface designation	None
Recreation	On Noatak and Kobuk rivers (intensive public use)	Where documented recreation exists
Reindeer Grazing	None	On Seward Peninsula in existing grazing permit areas
Settlement	In low, moderate, or high areas as negotiated by planning team and shown on map	If not primary, land sales are prohibited
Subsistence	Habitat values raised by high level use, see Fish & Wildlife Resources, Appendix D, page D-1.	

